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10/064,511

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15-CT-6001

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EXAMINER

CHURCH, CRAIG E

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/064,511

Applicant(s)

HOFFMAN, DAVID M.

Examiner

Craig E. Church

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

**Figure 14 is approved.**

**The specification and figure 4 are objected to as the teaching beginning on page 6 that the x-ray tube Kvp is varied along the Z axis is erroneous since the Kvp is a scalar and does not have a direction (it is not a vector). Kvp is the peak voltage applied between the anode and cathode of the tube and is not a characteristic of the x-ray beam emitted by the tube whose spectral content may be varied such as by spatially dependent x-ray filtering. Correction is required.**

**Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. While the terms "x-ray source pitch" appear in lines 1-4 of page 8, no definition is provided; and the limitations conveyed thereby are obscure.**

**The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:**

**A person shall be entitled to a patent unless –**

**(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.**

**Claims 1-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki et al (5570403). Yamazaki teaches a dual energy CT scanner comprising a rotating gantry, x-ray tube 10 with means to vary the spectral content of the x-ray beam in the Z direction (figure 16 and lines 19-22 of**

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column 9), plural detector rows 1-2, data acquisition means 50, reconstruction processor 60 and display means 70 for showing the spectrally discriminated and combined images. In the system of figures 5 and 6 (lines 49 of column 6 to line 13 of column 7) energy discrimination is provided by scintillators 31 and 32 which have the same absorption characteristics but are of different thicknesses. Lines 14-18 of column 7 explain that the scintillators may be the same thickness, and filters are employed for spectral selection. Lines 22-67 of column 7 discuss use of wedge filters (sloped) between the source and the patient. Figure 15A shows that the filter for detector 2 is air. Lines 29-36 of column 8 reveal that the Kv applied to the x-ray tube may be varied as its focal spot is shifted to favor each detector row. Lines 43-53 of column 9 suggest that more than three detector rows may be used for discriminating more than three subspectra.

Applicant's arguments filed November 17, 2003 have been fully considered but they are not persuasive. Applicant's explanation with respect to the x-ray tube Kvp being varied along the Z axis is not acceptable. Rather the x-ray tube Kvp can vary along the Z axis only if the x-ray tube is moved along the Z axis during voltage variation, and this is not stipulated in the specification. Further correspondence that fails to correct this defect will be considered nonresponsive.

**Applicant's traversal of the rejections under 35 USC 102(b) merely quote the language of the independent claims without a specific comparison of claim limitations to the Yamazaki teaching. Since the terms "x-ray source pitch" have been added to all of the original independent claims, it is believed that applicant considers them to be a point of novelty (even though he fails to say so). While these terms appear in lines 1-4 of page 8 of the specification, no definition is provided; and the limitations conveyed thereby are obscure. Applicant may assert that this refers to the distance the source moves during a scan (lines 5-7 of page 4 of the specification define a scan as the set of data acquired during one revolution of the source/detector), but no such movement is recited in the claims, so the limitations conveyed by these terms are unknown.**

**Applicant states that Yamazaki does not suggest the CT system of new claims 24-28 but offers no reasons or evidence. Such a sloppy response is not constructive and cannot result in allowance of these claims.**

**THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).**

**A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.**

**Any inquiry concerning this communication should be directed to Examiner Church at telephone number 571-272-2488.**



**Craig E. Church**  
**Primary Examiner**